



Magazine

SEPTEMBER 1961



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Contributors



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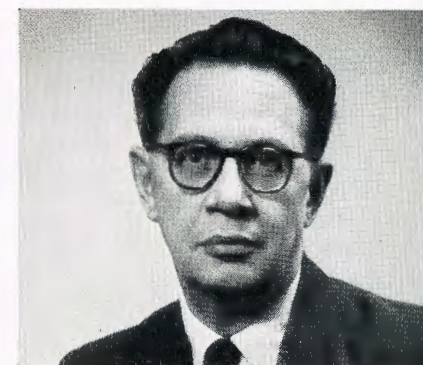


Jim Sherwood was appointed to the Technical Services Information Section of the Pharmaceuticals Division in 1957 and now deals almost entirely with veterinary products. He joined the Company in 1949.

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FRONT COVER: Giant cacti in the
Argentina. Photo by Eric Pavel



POINT of VIEW

MORE CURBS OR MORE HOLIDAYS?

By Mark Abrams

WHEN in midsummer we were being offered dozens of explanations as to why Britain was once more struggling with an economic crisis, there appeared on the front page of the *Sunday Times* two news items that seemed to me highly relevant to the debate. One of them speculated that Parliament would soon introduce new laws to curb the flow of immigrants into Britain; the other item announced that workmen at a Doncaster factory had agreed to cancel their holidays so as to help install some new machinery. At first glance neither of these two bits of news would appear to have much bearing on our economic difficulties. According to some experts the causes of these difficulties are obvious: we are not selling enough overseas because our deliveries are late and our prices too high; these circumstances, they claim, have arisen because, as a nation, we have not invested enough in more new machinery and more new factories.

This explanation seems to me to be pretty wide of the mark. I would suggest that the real reason why for the past ten years Britain has lagged behind most other countries in economic growth is quite simply that we, unlike them, have suffered from a constant shortage of labour.

BRITISH industry has plenty of new equipment; what it lacks is the labour to keep it usefully employed for more than a few hours a week. If we did have the labour and if the machines

were fully employed, British costs and British delivery dates would be as good as those of our competitors. For years we have been short of enough labour to make the best possible use of all our new machines and factories.

OVER the past decade the total civilian working population in Britain has expanded by no more than 165,000 in the average year. In June 1950 there were 22 million men and women at work; ten years later the total was still little more than 23½ million. Moreover, much of this increase was accounted for by what might be called marginal workers—older men who continued at work after reaching the retiring age of 65, and middle-aged married women going back to work after having brought up their children; many of these men and women have taken only part-time jobs.

This lack of growth in the working population has not occurred among most of our successful competitors. In West Germany, Italy, Japan, France, etc., industry has been able to draw on two main sources of supply of additional labour—under-employed agricultural workers and foreign immigrants. They have done so and at the same time managed to increase the average real income of their people much faster than we have been able to.

As far as the future size of the working population is concerned, the outlook in Britain is liable to be more or less unchanged. A few more old

men may stay on at work after reaching pensionable age, and a few more middle-aged married women may take up part-time jobs. It is true that the number of boys and girls reaching the age of 15 will go up, but this, one hopes, will be offset by more and more of them continuing with their full-time education beyond the present minimum age for leaving school.

Under these circumstances, if we want an expanding labour force and, as a result, a rising standard of living, it looks as if we shall have to adopt a positive migration policy.

AND this means avoiding doing things which encourage sensible and hardworking people to emigrate from this country, and at the same time doing things which encourage the same sort of people to migrate to this country. The figures for the 1961 Census indicate that we have not been particularly successful at this over the past ten years. In that period Great Britain lost emigrants nearly as fast as we gained immigrants; in fact, for the whole decade the latter exceeded the former by a mere 100,000—or an average of 10,000 a year—and many of these were, of course, women and children who made no immediate contribution to the nation's working population.

Who knows? If we had had a larger working force it might not have been necessary for those Yorkshire workers to cancel their holidays.

The opinions expressed in this article are not necessarily those of the Company

ICI GROUP INVESTS IN ARGENTINA



Arthur Edbrooke, chairman of Duperial

OVER the past two years an unfamiliar name, Argentina, has begun to figure in ICI's foreign investment plans. What is the story behind this sudden appearance of a new, if for the time being modest, star in the galaxy of our Company's worldwide interests? Why Argentina, some may ask, perhaps adding as an afterthought "Where on earth is it, anyhow?"

Why Argentina, indeed, a country in which losses have been incurred by private investors in public utilities in contemporary times? For answer one must go back to 1955, the year which saw the overthrow of Peron, the dangerous demagogue whose ten years of extravagant, unprincipled rule brought Argentina to the verge of bankruptcy and blemished a hitherto outstanding reputation for honouring her debts.

In that year Argentina took on a new lease of life and started the long and difficult struggle to put her shattered economy in order. Encouraged by the genuine efforts of recovery being made by the Government, foreign capital, which had been scared away during the Peron years, began to flow back in an increasing volume, and it was soon evident that a new era of industrial development was beginning. Today British capital represents only 20% of the total foreign

Within the last three years nearly £13,000,000 of new investment in Argentina has been backed by ICI. All this capital is being handled by our subsidiary, Duperial. What are the calculations behind this big new stake in the second largest country of South America? In short, why Argentina?

By Arthur Edbrooke

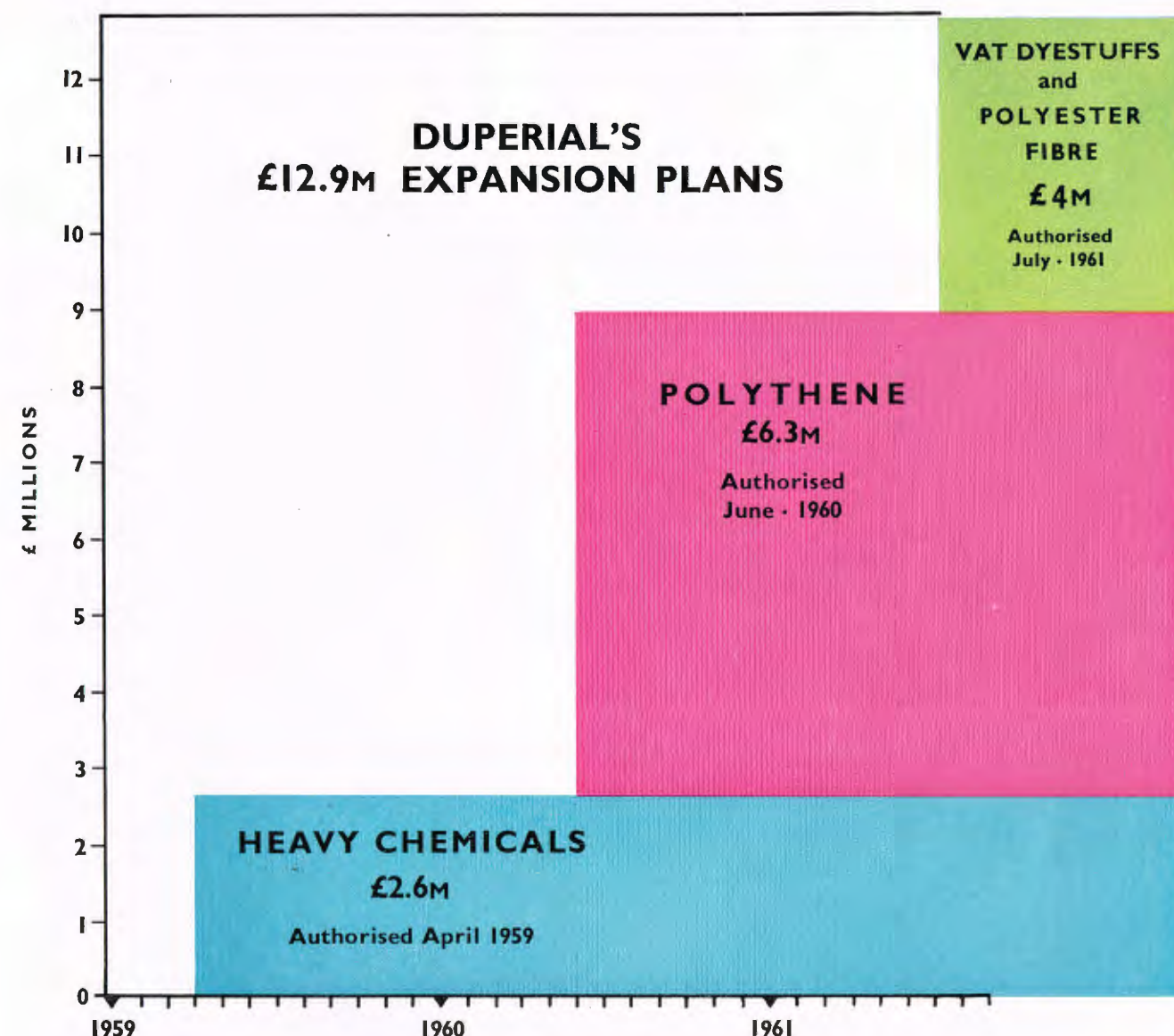
investment in Argentina, down from a high watermark of 65% in 1910. The American share, on the other hand, has risen from 1% 50 years ago to 20% in 1940 and 31% in 1959.

Duperial, ICI's subsidiary, once shared with DuPont but hived off in 1953 as a result of a decision in the American courts under the Anti-Trust Laws, was in no condition to respond to this challenge relying solely on its own resources. Its plants were largely old and inefficient, its sites inadequate and no longer suitably located for chemical operations, its financial resources eroded by the process of unrestrained inflation which had plagued the country for years. It did have, however, a handsome share of the market, a name and a reputation of the highest order and a competent and loyal staff. Was this not a foundation on which to build?

The board of Duperial turned to ICI for assistance. It required many years of patient advocacy, backed by careful analyses of markets and conditions, and on-the-spot investigations by officials of all ranks from the home organisation, from the Chairman down, before the first project, known as Plan A, was finally supported in April 1959 by the ICI Board. Support was given to a new investment of £1.5 million out of a

Two hundred miles up-river from Buenos Aires, at the northern end of a rapidly growing industrial belt, is San Lorenzo, site of Duperial's £13 million chemical project. This Argentine "Wilton" was bought some years ago because of the difficulty of expanding plants in densely populated Buenos Aires. Situated on the banks of the Parana, one of the world's greatest navigable waterways; served by road, rail and air; and with access to pipelines from the north carrying the natural gas and light oil distillate necessary for the production of CS_2 and ethylene, San Lorenzo is an almost ideal site. The existing Duperial plant at Sarandi, south of Buenos Aires, will be closed when San Lorenzo comes into full production but the buildings retained for office accommodation and warehousing



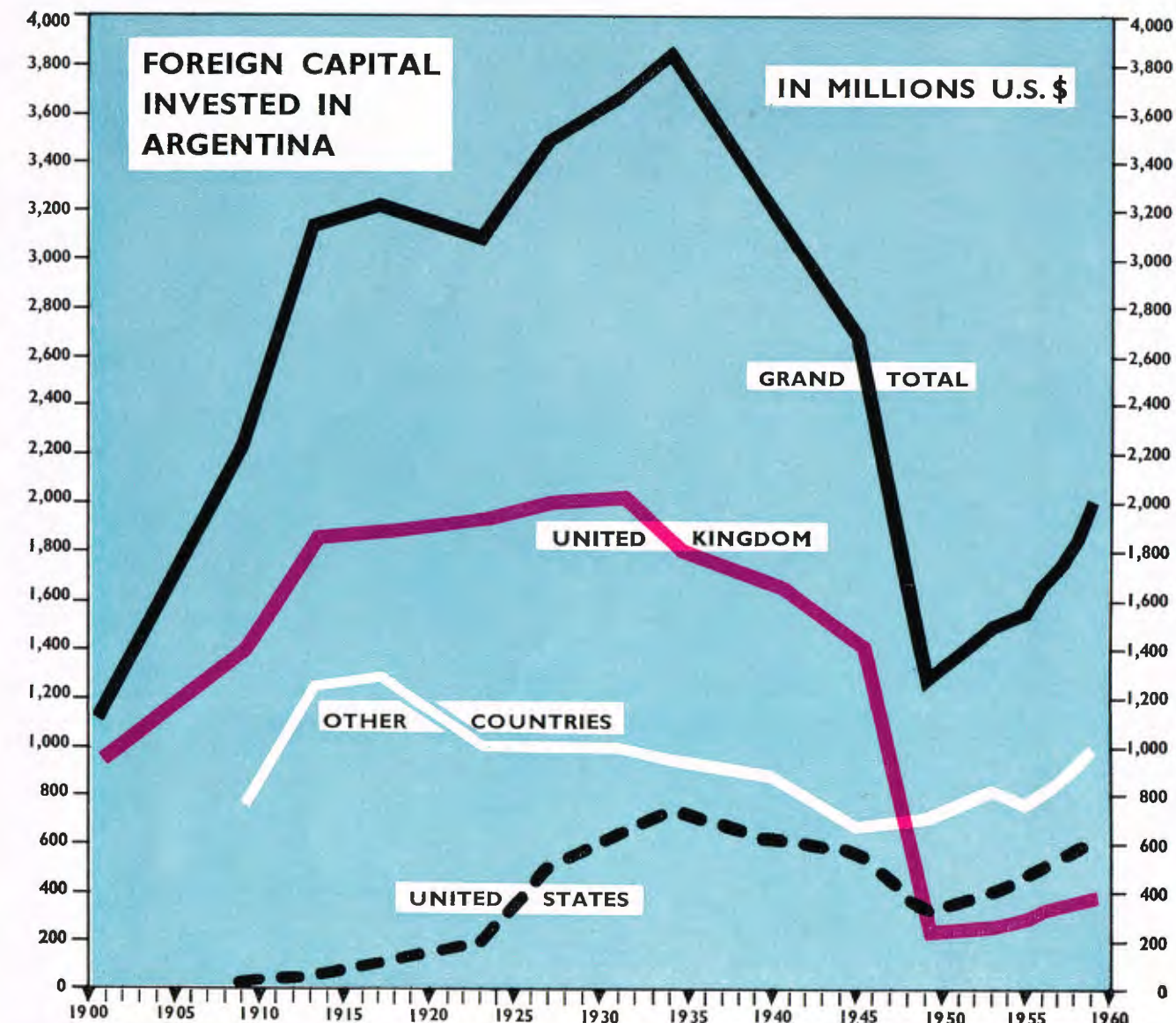


total of £2.5 million required for developing a new site to house modern sulphuric acid, carbon bisulphide, hydrogen peroxide and phthalic anhydride plants. This was followed by ICI's decision to support a project to erect on the same site a polythene plant at a cost of £6.3 million and in July 1961 to proceed with a polyester fibre plant there, initially to cost £2.9 million.

The new site is situated at San Lorenzo in the province of Santa Fe, about 200 miles north of Buenos Aires. It covers about 120 acres and is ideally suited for the purpose; the district is well served by road and rail communications, and is placed at the northern end of a rapidly growing and well-populated

industrial belt which extends from Buenos Aires along the right bank of the Parana, one of the world's greatest navigable waterways. It is well suited as a petrochemical centre, since there is a large refinery near and it is connected by pipeline with the oil and natural gas areas 800 miles to the north-west.

Now, why would a company like ICI, with such vast commitments in the home territory and in the Commonwealth, wish to participate in the development of the chemical industry of so remote and inadequately known a place as Argentina? What is there about the country that makes it attractive as a field for investment? It would be an unpardonable presumption to attempt to interpret the views of the



Board of ICI, but it is possible to explain the reasoning behind the recommendations put forward by the board of Duperial. Let us therefore take a closer look at Argentina and the prospects it offers.

Argentina, the second largest country in South America, has a population of over 20 million inhabitants, literate, white, and mainly of European stock. It covers an area roughly five times that of continental France and has a climate which varies from the sub-tropical in the north to the antarctic in the south. Mainly it enjoys a temperate, healthful climate. It is richly endowed with nature's gifts, the greatest perhaps being the fertility of her pampas.

Such conditions naturally tended from the earliest

days to make Argentina a producer of agricultural and pastoral products, but during the last fifty years the rapid increase of population and the experience of two world wars gave encouragement on an increasing scale to the creation of a national industry. Argentina has the highest standard of living in Latin America and also the oldest and largest middle class. In contrast to many other Latin American countries, one does not see wide extremes of wealth, which explains why communism has no strong foothold. In the background beckons the even richer prize of a Latin American common market; in theory this has already been created by treaty, although it will be many years before it is a working reality. Nevertheless the seed



Buenos Aires, with its 6,000,000 inhabitants and skyline of soaring, modern buildings, is claimed to be the largest city in the southern hemisphere. Yet a century ago the total population of the city was only 76,000 and even in 1947 was still a third less than it is today

has been planted, and is encouraged by results in Europe. One day this association of eight countries, covering 6.5 million square miles and with 150 million inhabitants, will begin to function.

All these factors point to an expanding economy. Measured against the background of an enlightened Argentine government, they have encouraged foreign investors, mainly American and some European, to take a new look at the country and to move in with capital and technical resources.

As the Board of Duperial saw it, the time had come to participate in this expansion and defend a stake in the market of many years' standing. Not only was it necessary to extend the Company's activities into new lines. Even more urgent was the need to replace

existing dilapidated plants by larger and newer ones. Speed was imperative to avoid being forestalled by the rising flood of American, Swiss, German, Dutch and Italian capital. Fortunately ICI already possessed a firm foothold from which to expand—provided only the opportunities were taken.

These, then, were the circumstances which finally led to ICI's decision to make substantial sterling investments in Argentina and to prepare the ground for further expansion there as time and conditions may justify.

To carry out this programme Duperial requires not only financial and technical assistance but also help in the shape of trained staff to build and operate the plants. The quality of labour and staff in Argentina

is high. Many universities turn out first-class engineers, chemists and other specialists. It is naturally Company policy to employ local talent wherever possible, but men of technical experience are hard to come by. Duperial's existing technical staff, most of whom have undergone training in Britain at one time or another, will form the hard core of a greatly expanded technical organisation. But many more technicians are needed, and a programme of training in ICI's works in Britain has already begun.

However, not all posts can be filled locally. Recruitment of technical staff for key positions has been under way in Britain for some time. The ICI man going out to Argentina will find a congenial atmosphere in which to live. He will face an exciting

technical challenge bringing its own rewards. He will do so in the knowledge that, as a result of a long history of Anglo-Argentine commercial ties, Britons are well liked in Argentina. Friendly hands will be extended on all sides. Life can be very pleasant in Argentina. There are music and the theatre; and a whole range of sporting activities such as shooting, fishing, swimming, golf, tennis and riding is within the means of the ordinary man. The American influence and way of life are nothing like as strong in Argentina as in other parts of Latin America, and British people are apt to feel more at home. They will find housing and home life generally very much on the same lines as in Britain—but with the important difference of plentiful domestic help.

Man with Three Jobs

MOST men of sixty find one job as much as they can handle. John (Jock) Conn has three in the Nobel Division. He's a shotfirer, a lead-caster, and warden of Fairlie Moor. The first two jobs are, as it were, corollaries of each other: in them Conn is engaged on both the manufacture of testing equipment and its use in determining the velocity of detonation and the power of explosives used in quarrying or mining. He began working for ICI nearly forty years ago as an industrial worker; since 1927 he's been a laboratory assistant. A big, sturdy Ayrshire man, Conn's work is physically exacting; particularly that part of it dealing with lead-casting.

But when he arrives at work at half-past seven, Conn has a morning of shotfiring in front of him. Sometimes he operates the Dupont mortar of American design—a rare machine indeed, for apart from the one Conn uses, there are others installed in India and in Belgium, and only two others ordered for France and Portugal. It's an awe-inspiring engine, which looks as if it might have been designed as a primitive muzzle-loader for the express purpose of breaching the walls of medieval castles. But this primitive appearance is deceptive. The measuring apparatus of its pendulum is a precision instrument capable of dealing with the niceties of the most exact test. The pendulum weighs 1100 lb; the steel shot fired weighs 37 lb.

The process is simple. The operator fires a shot into a target some half-dozen yards away, and the mortar's recoil is measured to determine the power produced by the explosive. Conn fires thirty shots a day, and sometimes also works on the Ardeer Double Cartridge Test—a propagation test in which two cartridges are laid a certain distance apart in line, to determine at what proximity detonation will take place.

* * *

But it's the lead-casting that he does in the afternoons that Conn finds the hardest part of the day's stint. He makes lead plates, bars and blocks to hold small charges of explosive. After detonations, the resulting cavities of the blocks can be measured to calculate the power of the explosive material tested. Six lead blocks—each weighing $1\frac{1}{4}$ cwt.—are ladled into $\frac{3}{4}$ cwt. moulds. It takes three hours for the lead to melt and a quarter of an hour for it to cool.

Handling the ladles is an arduous and highly skilled job, made none the more comfortable by working with metal which at its hottest reaches a temperature of 450° Centigrade. It doesn't, however, seem to have done Jock Conn any harm. When he first came to the job over twenty years ago he was a stripling weighing 9 stone 12 lb. Today he tips the beam at 15 stone.

Finally, Jock Conn is warden of Fairlie Moor, the isolated range a thousand feet above sea level, where he is in charge of security and also helps to fire explosive charges too large to be detonated on the factory site. It's probable that it's his job on the Moor that Jock Conn will miss most of all when the time comes for him to retire. He doesn't find the lead-casting too heavy, even at his age, and the shotfiring has the inexhaustible appeal that making explosions has to boys of all ages; but the spaciousness of desolate Fairlie gives him the joy of a return to nature after work on industrial sites.

Jock Conn works a five-day week, from 7.30 to 4.30. When he first became a laboratory assistant he drew £2 12s. a week. He finds working conditions greatly improved since he first became a skilled worker in 1927.

* * *

As a younger man Conn was a harrier of distinction, running both for Saltcoats and YMCA teams. He won badges in the Scottish YMCA championship and in the novice five mile individual race. Today he spends most of his spare time in his garden, and dismisses the charms of golf with a curt "I'm no' an old man yet, thank you!"

First and last, he's a nature-lover; and in his taciturn way he rejoices at nature's refusal to surrender entirely the flat, gorse-gaudy country around the Testing Station to industry and the scientists. For example, somewhere between the firing stations and the office buildings there's a bush below eye-level with a nestful of thrush's eggs. A hundred yards away there's another in which a family of meadow pipits is hatching out. You and I could spend a day searching and never find either; but Jock Conn can put his finger on every nest in all the acres of the Testing Station. Just because a man has three jobs, it doesn't mean he can't be a bird-watcher too.

The Roll-top Desk

"... Sir John had given his edict, and who was I to question? ... I was not quite drunk with power, but getting on," writes Lewis A. Inglis of 1926, when ICI first came to London.

By Lewis A. Inglis

I SUPPOSE I have been employed on personnel work as long as anyone in ICI (I started in 1926), and although there have been many exciting occasions since then, none, I think, can quite compare with the first few years or even months immediately after ICI was formed. I was lucky enough to be in the then Staff Department in Nobel Industries before ICI began. It was not many months before I met Sir John Nicholson, one of the first ICI Directors, then very much concerned with getting staff from the Provinces to work in London. He was a formidable Scot with dynamic personality who wanted quick results, and I found myself summoned to his room in Nobel House for brief interviews. They were a little one-sided and mainly consisted of my being told, for example, that some twenty staff were to arrive in Nobel House the following week and commanded me to find places for them to work, which, as far as I could make out, were never to be further than striding distance from his room.

I said I would, and that was that. Perhaps because I too am a Scot we understood each other in mind and speech.

I was nearly beaten. Nobel House was packed to the seams; but Sir John had given his edict, and who was I to question? I walked down Buckingham Palace Road towards Victoria seeking "To Let" signs, and to my joy,

at the end on the corner, I found what seemed to be the thing. I had not leased offices before, but it was about this time that I began to appreciate the power and prestige of ICI in the world in general, and what that power meant to me, its servant.

I found the agent that afternoon, and in a very short time I was surveying what seemed to be an enormous area, but which could be partitioned off into many good offices. I announced to the somewhat astonished agent that I would take the offices, and when he asked if I intended to rent the place for my own use I explained that I was acting for ICI and that I would only take the place if I could have immediate occupation. (I had not forgotten Sir John.) At these magic words he bowed from the waist and I told him grandly that I would leave him to clear all matters of detail with the Legal Department. This he was happy to do.

I spent the whole of that same afternoon and evening with the contractor's people and GPO inspectors, who worked ceaselessly all the weekend. So it was that a few days later the place was completely ready for occupation, furniture bought and installed, telephones working. Now I knew what the magic initials ICI could do. I personally was, I fancy, not quite drunk with power, but getting on.



This, however, stood me in good stead when the time came to help install our first Chairman, Sir Alfred Mond (later Lord Melchett), in his new room in Nobel House. I had met him once previously, a benign, powerful and dignified figure. It was quite a day, but at 3 p.m. all seemed well and some of us were due to meet Mr. Henry Mond, his son, to check the details in his father's room. Henry duly came and indicated that his father had been delayed a little and would not appear until about 5.30. Having scrutinised all the furniture, he turned to me and said that the only thing missing was a roll-top desk—Sir Alfred, he explained, always liked to lock up papers in one at night, and could I produce such a desk, with key, before the Chairman appeared? Without any hesitation I said I could, though I knew there was no such desk in Nobel House. However, I had noticed a furniture shop in Victoria Street, and such was the occasion that I even took a taxi there (I said I was a little power drunk), and indeed back as well. The man in the shop eventually found just the desk required, in the basement, and I said I would buy it there and then on condition that he delivered it, with key, to Nobel House by 4.45 p.m. He blew up at this. It was utterly impossible, and I, in high dudgeon, said the whole deal was off and with some show of hauteur

expressed great disappointment with the poor service he was offering the great company of which I was a member. He said might he ask just who I was? And, with I think some glee, I told him.

Once more (I was getting used to it) a bow from the waist and, of course, the desk would be there, or indeed anywhere I wanted it, at the time stated. I told him to send the bill to the Chief Accountant (Heaven help me!), and we parted, on his side anyway, warm friends. The desk was delivered in time, and to my joy, when Sir Alfred did stalk into his new room, he glanced around and said he thought everything was good, especially the roll-top desk, with key, standing grandly in its corner.

Soon, however, we heard of plans for a new building to be called Imperial Chemical House to be built on Mill-

bank, and although I had thought I knew all there was to know about the trials and troubles of the unskilled in trying to arrange office accommodation, I quickly realised that what had gone before was only kindergarten compared with what was to come. I got to know the architect, Sir Frank Baines, pretty well, as we were involved in an enormous amount of detailed planning for such places as the refectory, the gymnasium and garage, etc. When the building was going up, the contractors had a lift running up on the open steel girders at the splay end of the building. It was an exciting moment when Sir Frank invited me to go aloft in this contraption, from the top of which I could look down, rather shakily, on the growing Imperial Chemical House below.

The old Establishment Department of Nobel Industries became the ICI Head Office Establishment Department, to become the Head Office Staff and Establishment Department and later, as now, the Central Staff Department. Today in this department life is just as interesting, just as exhilarating and fascinating, but I somehow doubt if I shall ever recapture the moment of youthful grandeur when alone and unaided I bought an enormous roll-top desk, with key, and had it installed in Nobel House in the twinkling of an eye.

A PROMISING NEW DRUG

By J. H. Sherwood

A promising new drug was recently marketed by ICI Pharmaceuticals Division. Called 'Promintic,' it has an entirely new action against worms formerly immune from attack. The result can be a spectacular upsurge in animal health.

EVERY year the newspapers and magazines usher in the spring with a flood of photographs showing young animals enjoying their first adventures in life. The farmer, however, views this pleasant pastoral scene in a very different light. To him these gambolling lambs and frisky calves are the results of many months—perhaps years—of hard and patient labour. And of all the diseases the live-stock owner has to contend with, one of the most serious, economically, is worm infestation.

The Worm Cycle

This disease, which affects all animals to a greater or lesser degree, is caused by certain kinds of roundworms which spend their adult life in various parts of the stomach and bowel. Unlike some parasites, they are unable to multiply within the body of the animal. They lay eggs, but before these become adult they must be carried out on to the pasture in the dung, spend some time there growing into an infective form and finally be swallowed by a grazing animal. The infective forms then find their way to the parts of the stomach and intestine which suit them best and after a period of further growth they mature. Some worms actually burrow into the walls of the stomach and intestine or secrete themselves beneath the mucus for this final stage of their development.

Worms injure sheep and cattle in various ways: they deprive them of food, they attack the walls of the stomach and intestine, and they cause bleeding. When they are few in number the damage may be so slight that their presence is not noticed. When they are many, typical symptoms—listlessness, diarrhoea, anaemia, wasting—appear. Unless treated, animals may soon become so enfeebled that they die.

In Britain alone, out of a sheep population of about 25 million, something like 2 million die each year as a result of worm infestation. Lambs are particularly susceptible, and of the 13-14 million annual lamb crop a large number

will succumb to the disease and many more will not thrive as well as they should. In fact it is estimated that the overall loss to the sheep-rearing community must approach £10,000,000 a year. Worms in cattle are no less a problem. In addition to the loss of meat from death or poor food conversion, millions of gallons of milk are lost.

During the past 25 years a great deal has been learned about worm disease and its treatment. This has shown that in spite of the practice of intensive farming, a combination of good husbandry and the routine use of worming remedies can keep the disease below a level at which it becomes a drag on the animal population.

The drug most widely used at the present time is phenothiazine, of which ICI, in this country and overseas, is the largest manufacturer. It was first introduced as a worming remedy about 20 years ago, and because no other drug introduced since has been able to match its efficiency, its supremacy in this field has remained unchallenged. Nevertheless, phenothiazine is far from being the ideal anthelmintic.

Existing Loopholes

One of the difficulties is that the disease is caused by different kinds of worms living in different parts of the alimentary canal, and some are more easily killed than others. Another difficulty is that the immature worms are notoriously resistant to drugs, particularly when hidden in the walls of the stomach or intestine.

A great advantage of phenothiazine has been its efficiency against many of the important adult worms, no matter in what part of the alimentary tract they were found. In fact, its widespread use has almost eliminated some kinds of worm disease. But one drawback is that phenothiazine has little or no action against immature worms, so the re-treatment of animals to destroy these worms after they become adult is necessary. There are, too, other disadvantages: it is a bulky powder, messy to

use, and causes the discoloration of milk in dairy cows and wool staining in sheep. In addition the drug makes some animals, notably calves and white-haired cattle, unduly sensitive to sunlight—a risk which has been increased by the current use of the more easily absorbed fine-particle preparations developed to increase effectiveness.

The search for a new drug, widely active against both mature and immature worms, has recently been rewarded with the discovery in the ICI Pharmaceuticals Division Laboratories of a new and unique anthelmintic, 'Promintic.' This drug was first offered for sale to the veterinary profession last March.

The development of 'Promintic' is the result of one of the biggest team efforts ever expended on a veterinary drug in this country. In addition to the large team of biologists, chemists and veterinary surgeons of the ICI laboratories at Alderley Park, some fifty veterinary surgeons and research workers outside the Company collaborated in the field trials. Over 3000 cattle and sheep were used in experiments and another 1100 were used in trials carried out in Australia.

Chosen for Testing

'Promintic,' which is 2-β-methoxyethylpyridine, was first prepared by Midland Tar Distillers and was among a series of compounds chosen for test because of their similarity in chemical constitution to other compounds which had previously shown some anthelmintic activity. The initial screening tests were carried out in mice artificially infected with three kinds of worms, one of which lived in the upper part of the small intestine, another in the lower part, and the third in the large intestine. This was to enable the activity of the drug in different parts of the gut to be assessed.

The results with 'Promintic' were remarkable. Unlike any drug previously studied, including phenothiazine, 'Promintic' was highly effective against all three worms. In addition it was highly effective against the immature stages; and, most important, tests showed that the drug could be given at the optimum dose rate with perfect safety.

Obviously trials in sheep and cattle were called for, since the worms used in mice were different both in number and kind. These were carried out and confirmed the laboratory findings that 'Promintic' was highly effective against all the parasitic worms found in the intestine.

Simultaneously studies were being carried out into the way 'Promintic' worked. The first thing was to see what happened when worms were immersed in various concentrations of 'Promintic.' These experiments showed that even at very low concentrations the drug was able to paralyse the worms; then it was found to be effective in animals, when given either by mouth or by injection under the skin. The latter method was, however, better in many



Investigating the action of 'Promintic' against ascarid worms from pigs

ways, the only difficulty being that in some cases it produced temporary swelling. Whichever way the drug was given it was absorbed rapidly into the blood stream and carried to all parts of the body, including the alimentary canal, into which it was excreted along the entire length. The reason for the high overall activity was apparent—the worms just could not escape from the drug. No matter where they lived, whether actually in the gut or embedded in the wall, the drug would seek them out and destroy them.

Spectacular Results

After further investigations and toxicity experiments, arrangements for clinical trials were set in hand. Supplies of the drug were sent out to different parts of the country where veterinary surgeons had agreed to carry out trials in severely affected animals. In addition supplies were sent to Australia for trial under springtime conditions, since this is the time of year when there is a rapid increase in the pasture infestation and many young lambs are grazing. The results of the trials were spectacular. One farmer, for instance, reported in September that after treatment with 'Promintic' his April-born lambs were gambolling for the first time in their lives. Deaths among young animals were halted dramatically, and many animals *in extremis* began to eat and rapidly put on weight again. In fact it was said by many that the drug made "dead" calves walk again. These reports are even more impressive when it is considered that large numbers of these animals were suffering from types of worm disease which phenothiazine and other anthelmintics had failed to cure.

But prevention is always better than cure. Perhaps before long 'Promintic' will also be used as a routine to prevent outbreaks rather than just cure them and so enhance productivity still more.

LORD MCGOWAN

AN APPRECIATION BY MR. S. P. CHAMBERS

LORD McGowan's death in July represents the end of an epoch in the history of ICI and of its associated companies. His great work in building up the organisation to one of the most powerful in the world is recognised everywhere.

It is easier to ask why he was so successful than to find the answer. He was no scientist, his judgment in financial matters was faulty, and he was not a particularly good organiser. His qualities were those qualities of leadership which were needed in the chemical industry of Britain of that time. His capacity to strip any important matter of its detail, get to the heart of it, and then reach a decision, was matched by his judgment of men and his capacity to see that decisions were carried out. He did not wait until everything was cut and dried or until all doubts had been cleared up before taking action. He took risks, and he was generally right in his judgment.

All through his career his manner of dealing with other men was masterly. In the rationalising of the explosives industry in Nobel Industries, in the formation of African Explosives and Chemical Industries with Sir Ernest Oppenheimer, in the still greater work of forming ICI with Lord Melchett, in his dealings with Du Pont over Canadian Industries Ltd., he showed the same touch. He was reasonable, but firm and decisive.

He took no part in politics, but was on christian-name

terms with the leaders of both leading parties from prime ministers downwards. In all this he had a single purpose—to advance the interests of ICI. If he became somewhat imperious in manner, he had more justification than most others. He once said that he was in industry what Winston Churchill was in politics, and although there is obviously an element of exaggeration, the parallel is there.

With all this, he was also very human, and took a deep interest in people of all kinds. Soon after I joined the ICI Board in 1947, he confessed that he was about to do what he felt to be one of his hardest tasks; he had to tell the second Lord Melchett that he must retire on health grounds. He did not flinch from the task, but he hated it.

His interest in the Central Council and his faith in the whole Works Council system were characteristic, but he was also personally interested in the people he met both at Central Council and in our factories. He once told me that he was bored by all the b—— plant they wanted to show him, he only wanted to chat to the men. He would exchange stories old and new, clean and dirty (mostly old and dirty) with anybody anywhere; for him it was yet another way of making contact with people.

Lord McGowan retired from the chairmanship at the end of 1950 but as honorary president he continued to the very end to take a deep interest in the Company's affairs and made many wise comments by word, letter or telephone. Nobody recognised more clearly than he that changing circumstances required changes in policy and in organisation. Already the Company's assets and turnover are more than twice what they were when Lord McGowan retired, and some of our major products today were not then in commercial production.

Some of our major problems today require solutions quite different from those found by Lord McGowan to the problems of his time, but the foundations he laid endure, and we still need the same spirit and enthusiasm which he showed throughout the whole of his long and outstandingly successful career.



One of the last press photographs of Lord McGowan, seen in conversation with Viscount Montgomery at the Wembley Cup Final in 1959

People and events . . .

Britain and the Common Market

FOLLOWING the Prime Minister's statement that Britain was to make formal application to join the European Economic Community, the *Financial Times* on 1st August quoted the views of four "leaders of industry," our own Chairman, Mr. S. P. Chambers, Lord Chandos, chairman of AEI and a non-executive director of ICI, Lord Knollys, chairman of Vickers, and Sir Eric Vansittart Bowater, chairman of Bowater Paper Corporation.

Mr. Chambers said: "The opening of formal negotiations is of great significance, because failure to agree on conditions of entry would be interpreted all over the world as evidence of a deep and serious rift between Britain and her allies. The problems to be settled are formidable but I am convinced that if negotiations are started both sides will exert themselves to the utmost to bring them to a successful conclusion."

"Entry by Britain into the European Economic Community would bring a breath of fresh air into the economic life of Britain and enable us to get rid of the restraints, restrictions, inhibitions and complacency, which go with an economy which has become too introspective."

"The new ties would bring a new economic freedom, in which we would have an opportunity of showing that on many fronts we can still lead the world."

Profit-sharing Bonus

THE announcement of the profit-sharing bonus for 1960 gained considerable prominence in nearly all the national newspapers on 9th August. The *Financial Times* and the *Daily Telegraph* confined themselves to the official statement, but *The Times* and the popular press were rather more expansive. Three papers, the *Express*, *Herald* and *Mirror*, all held forth at some length on the inadvisability of

cal means more for Employees too," recommended that "the wise thing to do, of course, is to hold on if you can afford to stay out of the money. ICI should grow richer and even larger if Britain joins the Common Market."

Over 92,000 employees have qualified for bonus and, as announced earlier in the year, the bonus amounts to £8,555,000. After deduction of personal income tax this works out at an average per employee of £68 17s. 7d., which is over £9 more than last time. And this year 63,000 employees have qualified to have stock handed over, since stock is now registered in the name of an employee every second year or as soon as he is entitled to 40 or more units, whichever is the earlier.

A Life or Death Drive

FOR hours on end an Alkali Division driver, **Maurice Holness**, kept his van crawling at walking pace along the



An agonisingly slow journey. (See A Life or Death Drive.)

centre of the road, eyes straining ahead to avoid even the smallest hump or dent in the surface. He knew that the slightest jolt could mean death to the man lying paralysed with a broken neck on the hospital bed in the back of the van.

The man, 27-year-old **Donald Kirk**, a fitter at Lostock Works, had been injured in an accident on 28th July, while motor cycling to work.

He was taken to Northwich Victoria Infirmary where it was decided that, in order to give him the best chance of survival and recovery, he should be moved that day to the Orthopaedic Hospital at Oswestry, which has a special centre for the treatment of paralysis.

* * *

Transport presented a problem. It was necessary to maintain extension on the spine, and the best and safest method was to place his bed, on which the extension was already established, in a vehicle as it was. But this, because of the various fixtures, was too big for an ambulance, so a truck was suggested. The surgeon in charge of the case, contacted Lostock Works to see if ICI could help.

One of the Division's vans was rapidly brushed clean, driver Holness was detailed, and within half an hour, with **Mr. Reg Chambers**, assistant foreman at the Division's Central Garages, and driver **Joe Kettle** on board to help, the van was pulling into the infirmary yard to begin its vital journey to Oswestry. With the help of police and ambulance men, the bed and its occupant were carefully loaded into the van and secured for the journey.

Police escorts ahead cleared the way through the busy holiday traffic.

"We would never have got through without police help," said Mr. Holness. "They signalled oncoming traffic to the side of the road and after dark made them extinguish their headlights and pull up while we passed. With one foot always near the clutch and the other on the accelerator the whole time, I was anxious lest any slip-up on my part should cause a jolt that would be fatal. I even had to avoid the pads of the traffic signals."

In Demand

OUR leading article in the July issue, "New Look at the Top," has aroused widespread interest. Under the heading "ICI Reorganisation to beat Parkinson's Law" *The Times* of 14th July made reference to the interview between the Editor and **Mr. Bingen**. "The reorganisation of the top level management of ICI," the writer commented, "has been much more fundamental than was suggested at the end of last year. It was then baldly stated that the responsibility of the executive directors was being redistributed. Some idea of the scope of the reorganisation can be gauged from the fact that it took about nine months to work out and produce the new plan."

The report in *The Times* resulted in no less than sixty requests from outside companies, anxious, obviously, to read at first hand how ICI has tackled its top-level overhaul.

Film Award

FOLLOWING in the footsteps of *The Human Factor*, the ICI Film Unit production which won awards at the 1959 Festival, another Unit production has won a special prize at this year's International Industrial Film Festival at Turin. *Eye to the Future* was one of 113 films entered by eighteen nations. It gained the prize awarded by the Christian Union of Managers and Directors for the film "most successfully demonstrating the technical, economic and social value of professional education."

Eye to the Future, which has been made for the Engineering Conference, was written and directed by **David**



Evans, and photographed in Eastman-color by **Ken Rodwell**. In 28 minutes it illustrates the academic and practical training of an engineer for the chemical industry and gives an indication of the opportunities available. The bulk of the film was shot at Wilton and Billingham works, and in the Department of Engineering at Cambridge University, but one of the highlights of the film is a sequence far removed from the academic world. It was shot in the cellars of St. John's at Cambridge at a particularly lively session of the Cambridge University Jazz Club. The 10-strong unit had to film in a cellar about 12 feet square, literally under the heels of fifty jiving undergraduates. By midnight, when the sequence was completed, both the joint and the unit were jumping.

Nuclear Engineering Post

WELL known both as research manager of Metals Division and as a distinguished nuclear engineering "backroom boy," **Mr. S. S. Smith** is to be executive director and general manager of Nuclear Developments Ltd., the company recently formed by Rolls-Royce, Rio Tinto and ICI Metals Division to produce nuclear fuel and fuel elements.

Mr. Smith completed his education at Sheffield University, where he also spent three years on post-graduate research, latterly as senior research fellow. He joined the Research Department of Metals Division in 1930, becoming assistant research manager in 1939 and research manager seven years later. During the war he worked with both the British and American atomic energy teams, and his close association with this specialised aspect of metallurgy has continued ever since. Some of his earliest and most notable contributions to the development of nuclear engineering were described for the first time in R. W. Clarke's recent book, *The Birth of the Bomb*, reviewed earlier this year in the Magazine.



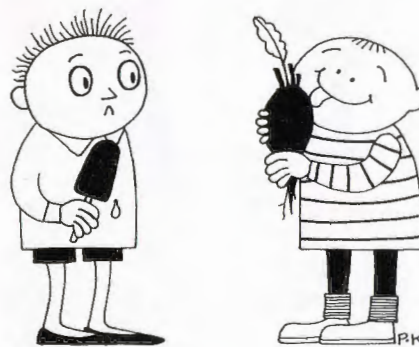
Mr. Smith

Salt for Sugar

IN August, Alkali Division, with the blessing of the British Sugar Corporation, launched an advertising campaign to persuade farmers to use more salt as a fertilizer for sugar beet. The Division produces a special grade of non-caking rock salt for farmers, which is sold under the trade name 'Betrox.' This month 'Betrox' makes its debut on Anglia Television—more than half the country's sugar beet crop is grown in East Anglia.

The economics are simple. Sodium is the second most important plant food for sugar beet, next to nitrogen in fact. 'Betrox' is a sodium fertilizer and, applied at the rate of 3-4 cwt. per acre, can produce its own weight in extra sugar. Since it is on the sugar content of his crop that the farmer is paid by the British Sugar Corporation, this means up to £4 extra net profit an acre to him.

At present over half the 420,000 acres of British beet receive no sodium at all. If this were treated with



'Betrox' it could produce 35,000 tons of extra sugar a year and give sugar beet growers more than £1,000,000 additional profit.

Paper Goods to Close

A PIECE of Company reorganisation was announced on 9th August involving the closing down of the Paper Goods Manufacturing Co. and the transfer of its business, partly to British Visqueen Ltd., another ICI subsidiary, and partly to the Pembroke Carton and Printing Co., a subsidiary of Ilford Ltd. in which ICI has an interest.

Paper Goods makes 'Alkathene'

bags and cardboard cartons at its Sutton, Surrey, factory. It has been part of the Alkali Division since 1938, and was originally a subsidiary of Nobel Industries Ltd., one of the companies that merged to form ICI. Production of 'Alkathene' bags is to be transferred gradually to British Visqueen's factory at Stevenage, where extensions to the film-making and conversion facilities are already in progress. As soon as Stevenage is in full production early in 1962, 'Alkathene' operations at Sutton will cease.

The carton manufacturing business of Paper Goods is to be transferred to the Pembroke Carton and Printing Co. at its new factory at Basildon, Essex. The reorganisation affects 220 em-

ployees. As many as possible are being offered other jobs in ICI or in the Pembroke Carton Co.

Plastic film Link-up

BRITISH Visqueen are also involved in the link-up with E. S. and A. Robinson of Bristol announced a few days earlier.

Under this agreement ICI is to get a minority interest (49%) in a new Robinson subsidiary to be called Robinson Plastic Films Ltd., which together with other Robinson subsidiaries will manufacture a wide range of plastic film products for the packaging industry. Robinsons, in exchange, are acquiring a third share in British Visqueen.

PEOPLE

Mr. A. G. Robb, managing director of ICI (NZ), has been appointed chairman of the New Zealand Atomic Energy Committee.

It is announced with regret that **Mr. T. A. H. Milton**, Sales Control manager of the former Lime Division, died on 23rd July after a long illness. He was 49.

Mr. Jack Cannon (Nobel Division) reached the last 16 in the Scottish Amateur Golf Championship at Western Garles at the end of July, when he lost by four and three to the eventual winner, Jimmy Walker.

Mr. Arthur Denton, a 34-year-old cutter on the 'Perspex' Plant at Wilton, has been awarded a Transport and General Workers Union Scholarship to Ruskin College, Oxford. Mr. Denton, who joined Wilton in 1955, has been branch secretary of the T and GWU for the past three years.

The St. Mungo Quaich, the Clyde Week challenge trophy for yachts in the Loch Long class, has been won this year by *Cirrus*, a boat jointly owned by two Nobel Division men, **Mr. N. M. Davidson** and **Mr. E. K. Pierpoint**. *Cirrus* competed against about 30 other contenders for the trophy, which goes to the crew who accumulate the highest number of points over the week's racing.

Mr. W. E. Leathwood (General Chemicals Division), who is vice-chairman of the Runcorn and Widnes Co-operative Society, was one of four British members of the Co-operative Society movement awarded

scholarships to attend a two-week course sponsored by the Danish Government, at the International People's College of Elsinore, last month.

Mr. G. A. M. Ferguson (Dyestuffs Division) was one of 350 winners out of 9000 entries in a competition "How well do you know your Bible?" The competition, to commemorate the 350th Anniversary of the publication of the Authorized Version of the Bible, was organised by the publishers, William Collins and Sons.

Members of the Peak Dale branch of the British Legion showed their appreciation for the outstanding service of one of the branch's longest serving members when they awarded **Mr. L. W. Potts** (Alkali Division pensioner) a certificate of appreciation. Mr. Potts, a founder member of the branch, is service committee secretary.

The Senior Counties Short Range Championship at Bisley was won this year by Suffolk, for the first time. The winning team included **Mr. F. E. Bridges** and the reserve was **Mr. C. G. Butcher**, both of Paints Division Stowmarket Works. Mr. Bridges, who is permanent vice-captain of the County, was also a member of the team which was second by two points to Middlesex in the English '20' Club Championship.

A Billingham welder, **Harry Collett**, was placed second in an invitation two-mile race at Strathallan Highland Games last month. He was on camp with the Tees-side battalion of the Boys Brigade. His prize was presented by Mr. M. Stewart, a local man, whose son is a chemist in the Research Department at Billingham.

AAA Medal

AN 18-year-old apprentice plumber at Wilton, **David Messham**, won a silver medal for the 55 ft. 4½ in. shot putt which gave him second placing—three up on last year—in the 1961 AAA National Junior Championships at Enfield, Middlesex, on 29th July.



Mr. Messham

The distance thrown—using a standard 12 lb. junior weight—was 6 ft. 4½ in. better than his attempt in the same championships at Hurlington Park, London, last year for which he received a Grade I badge for beating the national standard distance. This year's winner threw 56½ ft.

Not only has his distance with the 12 lb. weight increased. The 16 lb. senior weight, which David could throw 45 ft. last year, is now travelling a further five feet during present practice sessions.

Holiday Windfall

ABUMPER "holiday jackpot" payout totalling well over £800 has been made to 14 men on 'Terylene' Works for three suggestions made under the Suggestions Awards Scheme. The top amount of £765—the largest amount ever to be awarded for a suggestion at Wilton—has been shared by an assistant foreman and 11 shift fitters on the Filament Yarn Draw-twist Plant, while additional awards of £80 and £28 have been made to two other men whose suggestions have been adopted.

Sharing the £765 awarded for their joint suggestion are an assistant foreman, **Mr. W. Niel**, and the shift fitters **Messrs. J. Carrol, A. McKenzie, J. Kearney, J. Kelley, J. Wallace, S. Beckett, E. Howden, K. Barnes, M. Brown, T. Whitwell** and **A. David**, each of whom has received a cheque for £63 15s.

The suggestion which earned the record amount was for an improved method of changing the 112 hot pin shells on filament yarn drawframes.

The 12 men perfected the new technique over a long period in an excellent example of team work, and their suggestion has resulted in a reduction in the outage time for the machines. Hot pin shells are a device for preheating 'Terylene' filament yarn.

The individual awards went to **Mr. H. Deighton**, an assistant fore-

IN BRIEF

Nuclear Developments Board. The Board of Nuclear Developments Ltd., recently formed by ICI (Metals Division), Rolls-Royce and the Rio Tinto Co. was announced last month. ICI members are **Dr. James Taylor** (ICI director), **Mr. St. J. de H. Elstob** (chairman of Metals Division), **Dr. R. L. P. Perry** (Metals Division director) and **Mr. S. S. Smith** (research manager of Metals Division), who is executive director and general manager.

Polythene Price-cuts. The prices of 'Alkathene,' ICI's brand of polythene, were reduced again on 1st August. The reduction, which is 3d-4d per lb., depending on the grade, follows a 4d. reduction in November last year.

£3600 for Charity. Since the Billingham Charities Fund was started in 1957 a total of £3,598 has been given to charitable organisations. In the last full year up to March 1961 the total was £1015 and, in all, more than 50 organisations have benefited offer, and became unconditional on 11th August.

Take-over Bid. The offer made by ICI in July to acquire the 2,400,000 ordinary shares of Settle Limes Limited has been accepted in respect of more than 90% of the shares which were the subject of the offer, and became unconditional on 11th August.

Cereal Seed Dressings. From 1st January 1962, Plant Protection Ltd. will sell, for the control of wireworm in cereal crops, only powder dressings based on ICI's own discovery gamma-BHC. This decision follows the recent Government announcement banning from that date the use of certain other insecticides in seed dressings. PPL powder dressings based on gamma-BHC (against wireworm) and organomercurials (against disease) are 'Mergamma' and 'Ceregam.' They have been the most widely used of all dual-purpose dressings since their introduction in 1948, and their use has never involved any risk to wild life.

Fatal Accident. It is announced with deep regret that **Mr. G. R. E. Gorst**, a maintenance fitter, died in an accident at the No. 2 Carbide Plant of Castner-Kellner Works on 24th July. He was 26 and had been with General Chemicals Division since February.

man, and **Mr. S. Plumptre**, a filter operator.

Top Companies

THE *Financial Times* recently published the rankings of British companies in the list produced by *Fortune*, the US business magazine, of the hundred largest corporations outside the USA. British or Anglo-Dutch companies occupy the first four positions and account for five of the first ten. In this list, for which the criterion of size adopted is the volume of sales, ICI ranks fourth.

Here is *Fortune's* "top ten."

1. Royal Dutch Shell (British-Dutch)
2. Unilever (British-Dutch)
3. British Petroleum (British)
4. ICI
5. Nestlé (Swiss)
6. Philips Gloeilampenfabrieken (Dutch)
7. Volkswagenwerk (West German)
8. Alfried Krupp (German)
9. British Motor Corporation (British)
10. Siemens (German)

Twenty-seven other British companies are ranked among the next 90.

Value for our Money

NEARLY £1 million a year is spent on food for ICI canteens and restaurants. Until very recently each Division has been responsible for buying its own supplies, but in future there will be more co-ordination of these purchases in conjunction with Catering Section and Central Purchasing Department.

Buying in bulk has the obvious advantage of saving quite a considerable sum of money, and this is all to the advantage of the customer, for the amount of money to be spent on food in ICI canteens is set at 80% of the takings from meals. (A basic 1s. 2d. meal in ICI represents 11d. spent on food, whereas if you could get a meal for the price outside, the figure would be only about 6½d.)

Central buying also means that elaborate testing of the various brands available, on the lines of *Which*, is now a workable proposition. A test kitchen has been set up at Millbank by **Mr. R. L. Stinton**, chief catering adviser,

and a testing panel appointed, consisting of two Head Office and two Divisional catering experts.

The panel meet monthly and so far cooking fats, flour, soup mixes, some jams and various varieties of tinned fruit and vegetables have been tested. As a result, better purchasing arrangements have already been made for these items.

Back Cover

THOSE who detect a professional eye behind this month's back cover picture would not be wrong. It is the work of Maurice Broomfield, one of Britain's leading industrial photographers. Mr. Broomfield, who has on a number of occasions been commissioned to take factory scenes for ICI, was recently in Pakistan. Our cover picture, taken at Cox's Bazaar, a small village on the East Pakistan/Burma frontier, illustrates industrial activity on a rather different scale—primitive salt manufacture.

The salt is found locally in the sand and is scooped up by the villagers into baskets. Fresh water is poured over the sand, and the filtered brine solution drips into a bowl beneath. The brine is then poured into a shallow tray, and a fire evaporates the water. Our small cover boy is carrying loaded baskets of salt back to the village.

Small World

FIFTEEN years ago, seven Japanese POWs and a sergeant in the British Army were badly injured by a Japanese shell. After the war the Japanese met once a year to commemorate their good fortune in being alive and often talked of the British Army sergeant. It seemed that they would never meet again.

But **Mr. Jun Yasuda** of Tokio decided otherwise. After his lucky escape he went back to civilian life to become head of a large Tokio film-making concern and he knew he would visit Europe sooner or later. Last month he arrived in this country on business and asked the *Manchester Evening Chronicle* if they could help him find the British Army sergeant. They could, and when **Mr. Yasuda** and his daughter arrived in Manchester

the ex-sergeant, **Mr. C. Enright** (Northern Region), was on the platform waiting to greet them. They dined at the Queen's Hotel, but the services of an interpreter were needed because neither of them spoke the other's language. They had much to tell each other, filling in the blanks of fifteen years. **Mr. Yasuda** later accepted an invitation to a round of golf, which they played the following day.

Mr. Yasuda is now back in Japan, no doubt telling the lucky survivors of his meeting with the sergeant. Perhaps one day the sergeant may be able to surprise them all and drop in for a glass of sake.

50 YEARS' SERVICE

The following employees have completed 50 years with the Company: **Alkali Division:** **Mr. J. Smith**, Fleetwood Works (31st August). **Metals Division:** **Mr. H. Thompson**, Elliott Works, (2nd January 1961).

APPOINTMENTS

Some recent appointments in ICI are: **Alkali Division:** **Mr. W. E. Allen**, Assistant Accountant (in addition to **Mr. W. G. Ashley**). **Billingham Division:** **Dr. A. J. Harding**, Research Department Manager; **Dr. J. Maggs**, Manager of Division's Severnside plants; **Mr. D. F. C. Mann**, Head of Office Administration Department; **Dr. A. G. Winn**, Technical Department Manager. **General Chemicals Division:** **Mr. B. F. Crook**, Assistant Accountant (in addition to **Mr. C. L. Garner**). **Head Office:** **Mr. M. J. M. Clarke**, joining Central Labour Department; **Mr. B. T. Jenkins**, joining Central Labour Department. **Metals Division:** **Mr. C. Westgarth**, Chemical Plant Construction Manager of Marston Excelsior Ltd. **Paints Division:** **Mr. J. P. M. Bell**, Engineering Manager; **Mr. H. C. Hobday**, Work Study Manager (from 1st September). **Plastics Division:** **Mr. M. Browning**, Assistant Personnel Manager (Welwyn); **Mr. R. E. England**, Personnel Manager; **Mr. G. E. Hallybone**, Assistant Personnel Manager (Works); **Mr. A. G. Jones**, Chief Analyst. **The Regions:** **Mr. G. Scholls**, Regional Sales Manager (Dyestuffs), Midland Region; **Mr. G. B. Young**, Regional Sales Manager (Dyestuffs), Southern Region. **Wilton Works:** **Mr. C. T. G. Blackmore**, Labour Manager. **Mr. B. J. Murdoch**, Assistant Accountant (in addition to **Mr. V. R. Smith**) located at Severnside; **Mr. F. Robinson**, Construction Works Manager. **ICI (Export):** **Mr. B. G. Beale**, Chief Accountant.

RETIREMENTS

Some recent announcements of senior staff retirements are: **General Chemicals Division:** **Dr. E. Holmes**, Technical Service Director of Plant Protection Ltd. (retired 31st July); **Mr. C. T. Ward**, Managing Director of Plant Protection Ltd. (retired 31st July). **Plastics Division:**

OBITUARY

Mr. W. J. V. Ward

Mr. W. J. V. Ward, chairman of Billingham Division since 1955, died on 10th August after a short illness.

Dr. S. W. Saunders, chairman of Heavy Organic Chemicals Division, writes:

The death, at the early age of nearly 59, after only a week's absence from work, of **Mr. W. J. V. Ward**, known to his colleagues and friends as Willie, was a great shock to those who knew him and particularly to those at Billingham, where he had spent most of his 35 years' service with the Company.

A modest and unassuming man of simple tastes, with a keen and active brain, a ready and, when necessary, devastating wit, he never spared himself in any of the duties he undertook. Helped by a prodigious memory and leaving nothing, however small, to chance, all his work was carried out in great detail and with extreme thoroughness. But once his mind was made up he was difficult to shake. Although hard working, with an even and balanced temperament, always fair and just, he was very tolerant and would excuse others where he would not excuse himself. He liked to know personally all those with whom he had dealings and this he did, in his earlier days, including those at the Heysham factory where he spent most of the war years. It was a disappointment to him that as chairman he could not do this on a site as large as Billingham, but nevertheless he took advantage of every opportunity which came along and continued the practice of one of his predecessors of visiting the works on Christmas Day and chatting to as many people as he could. Evenings at many of the Division's social, club and other functions where he could meet employees, staff and payroll, gave him great pleasure, even though this took a large share of his all too little leisure time.

He had a great love of the countryside and a considerable knowledge of wild flowers, birds and moths. Indeed, most weekends would find him with his family, or with Mrs. Ward alone when the girls were away from home, walking among the Cleveland Hills or the Yorkshire Dales or on the Pennines, noting and recording the flowers and their habitat and watching, with almost a countryman's instinct, the behaviour of birds and the arrival and departure of migrants. In the evenings, when time allowed, he would set up his moth lamp in the garden, collect the moths, count and identify them and record his observations.

When the time came for him to retire, he was hoping to give a good deal of attention to these hobbies, but unfortunately it is not to be. With his death, his wife and three daughters have lost a devoted husband and father, his colleagues and contemporaries a trusty friend, and ICI a valued servant. His many friends give their sincere sympathy to his family in their sad loss.

NEWS IN PICTURES

Home and Overseas



Stowmarket greets the Queen. The Queen paid an official visit to Suffolk on 21st July—the first reigning monarch to do so since Elizabeth I. Her itinerary included Stowmarket, where she saw an exhibition of the industries of Suffolk. The stand dealing with chemicals had as a backcloth paintings of three local factories, among them Paints Division's Stowmarket factory. All three were the work of a Stowmarket works painter, Mr. Harold Ward. The Queen is seen here with Mr. E. B. Seeley, Stowmarket works manager, who was chairman of the organising committee



Austrian Textile Fair. Mr. W. P. Elliott (right), manager of Bickford & Co. AG, ICI's Austrian subsidiary, welcomes Dr. Fritz Beck, the Austrian Minister of Commerce, to the Fibres and Dyestuffs Division stand on the opening day of the Dornbirn Textile Fair



Shades of Guy Fawkes! The Canadian Houses of Parliament in Ottawa were recently the backdrop for an unusual blasting project—an underground tunnel to link the west and centre blocks. Blasting, using new techniques, including "pre-shearing" evolved by CIL's Explosives Division, went on while not more than 50 feet away in the House of Commons debates were in progress



Cheshire, VC, at Billingham. Group Captain Leonard Cheshire, VC (facing camera), one of the most famous bomber pilots of the last war, paid a brief visit to Billingham on his way to Marske-by-the-Sea, where the latest Cheshire Foundation home for the sick is to be opened. At Billingham he met among others Mr. A. J. V. Merritt (left), Commercial Works transport manager, who is a member of the Northern Committee of the Cheshire Homes Foundation. Also pictured are Alderman A. Pickles, chairman of the Northern Committee (second from left), and Mr. J. M. Catterall, secretary of the local committee



£160 award. Mr. Joseph Walsh (left), who works in the Research Department at Dyestuffs Division Headquarters, has been awarded £160 under the Suggestions Scheme for an idea, since developed and applied at Grangemouth Works, for improving the method of granulating dyestuffs. Here he receives his cheque from Mr. R. W. Sutton, Blackley works manager



Golden Eye Club. Mr. Tommy Close (left), a glass controller in Plastics Division's 'Perspex' Plant at Billingham, receives the membership card and badge of the recently instituted Golden Eye Club from Mr. A. Burness, Plastics Division's Tees-side works manager. Membership of the Golden Eye Club, which was instituted by the Royal Society for the Prevention of Accidents, is open to those who have had their eyesight saved by wearing safety spectacles



Boosting 'Belco' finishes. Some of the 7668 entries received in a road safety competition designed to advertise ICI's 'Belco' car finishes in Jamaica and run with the blessing of the Government safety authorities. Left to right: Mr. J. O. Norwood of Cecil B. Facey Ltd., our agents in Jamaica, Mr. T. E. Sealy, editor of the *Daily Gleaner* which ran the competition, Mr. C. Mahon, Assistant Commissioner of Police in charge of traffic, and Mr. George Lillywhite, manager of ICI's Caribbean Liaison Office



Severnside pipeline. Work in progress on the pipeline from Esso's refinery at Fawley, near Southampton, which will carry petroleum products for use as chemical feedstocks in the new plants now under construction at Severnside Works. The 78 mile pipeline will be the longest in Britain. (An Esso photograph)



Penny Post. Somebody went to a great deal of trouble to get this parcel, which arrived recently in the mail room at Midland Region headquarters, posted quickly. Altogether there are 72 stamps totalling 6s. 1½d. It is not recorded whether the office boy concerned had to be taken to hospital suffering from lack of lick



ATC trophy. Two Ardeer apprentices, Tom Russell (centre) and Michael McCulloch (right), both members of No. 1138 (Ardrossan) Squadron of the ATC, admire the trophy awarded to their Squadron as runners-up in the ATC's Sir Allan Lees Efficiency Competition. On the left is the commanding officer of the Squadron, Mr. J. Barbour, a member of Nobel Division's Research and Development Department



Stout stilettos. These heels are made from 'Propathene,' ICI's brand of polypropylene, by Hollis Heels Ltd. of Hull. Three 4-inch nails have been hammered through the heels without cracking or splitting the 'Propathene'



'Ambla' fashions. 'Ambla,' the new expanded-coated pvc fabric made by ICI (Hyde) which combines the suppleness of leather with all the hardwearing and washing qualities of vinyl, is here made up into coats, a hat and a handbag. The teenage and child's coats are by Kaycee Clothing, the full-length coat by Quelrayn, the hat by Jacoll and bag by Elite Handbags



Prize-winning garden. One of the features of the farm cottages which the Company provides for the farm workers at Jealott's Hill are the beautifully kept gardens. This picture shows only a section of the garden which has earned for Mr. E. C. Andrews (seen coming through his gate), first prize for cottage gardens awarded by the Royal Forest Agricultural Association

Flying Winners

There is something almost uncanny about pigeon racing. How does a bird find its way home from Barcelona to Scotland, a distance of 1000 miles? And how is it that in recent years the time for this race has been cut from 31 to 8 days?

By Denzil Batchelor



A good bird must come to hand, fitting snugly and balancing perfectly. If it doesn't, it will fly unbalanced and drop speed in a buffeting wind

money, that is. You will (and I say this without any blarney) lay up a treasure in happiness derived from an engrossing hobby in which success cannot be won except by solid work and the application of hard-won experience. Moreover, you safeguard your family life. Many men will desert their wives: no pigeon owner will ever desert his loft.

When you first come to the sport you will be ignorant of how fast and how far your birds may be expected to fly. In dead calm weather the average speed is between 33 and 35 miles an hour. The world's record with a tail wind is 94 m.p.h. over a distance of 150 miles. You must hope that a good bird will encompass 500 miles in a day, and not forget that the 1948 record for 508 miles from Thurso to London shows an average speed of 72 m.p.h. The most remarkable statistic of the lot is the speed achieved in the Barcelona-Scotland race. In little

more than three years the winning time for this thousand-mile event has been cut from thirty-one to eight days.

I think when you digest this fact your curiosity will be immediately aroused. *How* has such an advance been possible? What *can* have happened to produce

Pigeons being liberated at the start of a race

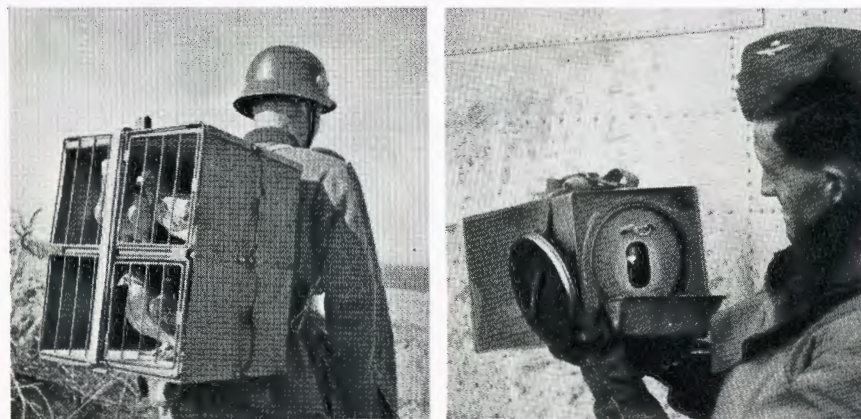
IN the age of the Common Market, the dividing lines that mark out the sections of the human race separate not so much the individual nations as men and women of varying interests and hobbies. The socialists of the world claim to be one brotherhood. The pigeon fanciers of the world certainly regard all non-pigeon fanciers as aliens and strangers, even though they may be people of their own race and religion.

There are twenty-six nations affiliated to the international pigeon fanciers federation in Brussels, a United Nations embracing countries from Japan to South America. In England alone there are probably a quarter of a million owners of racing pigeons whose two to three million birds race every week during the summer season under the aegis of the National Homing Union.

Let us suppose that, out of a clear sky, you decide to join their number. You may buy an average-bred young bird for from £2 to £5: a top-liner may set you back as much as £40. The costliest English pigeon was *Twilight*, which was sold for £625.

It will cost you between sixpence and a shilling a week to feed your bird—on a diet of maple peas imported from New Zealand. You can race it, in ascending scale, in club, Federation and Combine, races: perhaps it will be good enough to enter in international races starting in Bordeaux (cost of transport 3s.) or Pau (where prize money is bigger and cost of transport is £1). Some of the very big international races carry hundreds of prizes, amounting in the case of the Pau race to £10,000 and the race from Nantes to £12,000.

You probably won't grow rich on pigeon racing, in



Both sides used pigeons during the war. LEFT: A German outfit. RIGHT: Many an airman whose radio had broken down in a crash landing was saved by the SOS message carried by a pigeon

such progress in the performance of a creature of nature?

Of course, this is where the astuteness of the owner-trainer comes in—and, with its exercise, the charm and fascination of the sport. Until you become a member of the fraternity you probably think that all you have to do is buy your bird, accustom it to its loft, send it away in a basket and wait for it to fly home, timing it with the automatic chronometer which virtually ensures that cheating is an impossibility. How much more is there to it than that!

To begin with, you must choose your bird with something of the expertise shown by Ron Bissett of the weekly *Racing Pigeon*, a pre-eminent authority on the subject of homers, when judging a Pigeon Olympiad, and deciding that among birds from all the twenty-six federated countries there was none to compare with England's *Molly*. The feet are held between the forefinger and second finger; the thumb spans the back; the fingers span the other wing. When Colin Osman, editor of the *Racing Pigeon*, provocative pundit of pigeon-racing, and son and grandson of the two greatest names in the sport's history, shows you his grip it is easy enough to appreciate the first rule of the expert on the search for a winner. *The bird must come to hand*. It must fit snugly, balance perfectly; if it doesn't, it will fly unbalanced and therefore drop speed in a buffeting wind. After that, there are other points to be considered. The shape and sweep of the wing, for example. The bone formation. The feather quality to be discerned in the spread of the tail. The stance—a cock must stand like a cock, a hen like a hen.

Most important of all, according to one school of thought, is the brilliance of the circle of colour sometimes to be detected round the iris of the bird's eye.

The eye sign: it may be a mere mystique—it may be the supremely important attribute: there are certainly some among the initiated who believe that this is the secret hallmark of the bird destined to make history.

Well, you have got your bird. What comes next? I talked to Ernest Corley and his wife Lillian, who between them own a loft of 32 pigeons as members of the New Addington Flying Club, near Croydon. Ernest, a column operator in a nuclear laboratory—isn't that one for the *What's My Line* panel?—chuckles as he ponders what he would do if he had all the money and time, as he has the experience, to conquer absolutely in his favourite pastime.

To begin with, there's wind, the great incalculable in the pigeon-racing game. If the wind's on your side as your bird swerves home from Pau or Nantes to your London loft you must win against the man whose loft is so placed that his entry has to fly against the current. There are, says Ernest, rich retired men who have actually chosen their houses and built their lofts so that the prevailing winds (more likely than not to be south-westerly) will be on their side when their birds take part in big international races.

Then again, what gives a bird the great, final urgency to get home to its loft without a split second's delay? Sex or parenthood, of course: instincts as strong in pigeons as in people. The Belgians, explains Ernest, who are past masters in pigeonmanship, pair their birds at the beginning of the season, remove the hen, let the cock sit—then get a glimpse of his mate before removing him to take part in a race. Be very sure, no bird in a race has a greater sense of urgency to get back to the loft. Except . . . sometimes . . . The best laid plans of Belgians and pigeons gang aft agley. When really bad weather strikes, a homing

cock's morale is likely to be upset, and he will be deflected from his purpose—to seek consolation elsewhere.

But this Belgian subtlety in planning is all in the game. You will find, Colin Osman explains, that hens are liable to hanker to return to very young squabs; cocks, strangely enough, are apt to prefer the companionship of their rather older progeny. Family planning is therefore arranged to fit the exigencies of the racing programme.

Yes, the pigeon's personal habits have to be studied carefully if you hope to figure as a major owner. There are even hens which show a preference for other hens, though—and this makes a nice change from the contemporary human scene—few cocks which prefer the company of their own sex. But parental loyalty is strong and urgent in both sexes. Male pigeons are claimed to be the only cocks which feed their own babies: from a secretion in their own crops, commonly misnamed "pigeon's milk," which strangely enough is greatly augmented by prolactin—a hormone stimulus which increases the yield of human mothers, as of pigeon fathers.

Mating takes place from March throughout the spring. Hens lay two eggs, the first within six to ten days, the second nearly forty-eight hours later. A bird may take part in a Young Birds' race at four months, should race regularly from one year to nine years, and will be at its best as a three-year-old.

The early training is of major importance. You don't just let your bird bed down in a loft, taking off for a flight whenever the spirit moves him. In youth, twenty minutes in the morning and twenty minutes at night are all the flying he should be permitted—this time being extended to two hours a day in full maturity.

Pigeon racing has had its followers in every class. Today it is as strong in mining districts and around Newcastle as anywhere in Britain; but it has a great following in the south, as well as in Scotland, Ireland and Wales. Both the Duke of Windsor and George VI raced birds as children, but Queen Victoria at first compelled them to enter them under the names of



Judging at an international show. A bird is examined for strength of wing structure and the regularity of its flights

their schoolmaster and a royal gardener, only consenting to their public ownership after they had won races.

Later, pigeons were to repay royal patronage. During World War II, 16,554 pigeons were dropped by parachute into enemy-occupied territory with instructions and questionnaires for the finders. Of these, 1842 returned to Britain.

Today the worst enemy is not the enemy's rifle but the peregrine, and attempts are being made to get the bird removed from the protected list.

Left unmolested, a pigeon will return to its loft after it has been lost for perhaps seven years. Ernest Corley lost a blue hen over a year ago, learned that she had been found in Belgium, refused to pay to have her repatriated as he thought she wasn't worth it—whereupon the hen flew home, "thus proving that she was." If you find a lost racing pigeon, report the legend on the ring round its ankle to Selby Thomas, secretary of the National Homing Union, 22 Clarence Street, Gloucester.

The pigeon isn't the fastest bird in the world: the stooping goshawk or the swallow in full bore can beat it over a short course. It doesn't hold the world's record for distance flying: the albatross is ahead of it here. But for speed combined with stamina it beats the world. There are many who think that it, rather than the bulldog or the lion, should be Britain's national symbol. They have a case, at that.



The words "outpost of the empire" are today almost a dead phrase. Yet this is still perhaps the description most readily fitting Aden, where only a journey into the interior can relieve the tedium of an oppressive monotony. Photographed by R. Tingley

ADEN IS NO EDEN

R. Tingley, Metals Division

As I stepped from the aircraft at Khormaksar, the heat cut through me like a knife. Across the dazzling white apron were the few small low buildings that made up the airport, and towering upwards like a backcloth behind them were the barren rocks, brown and craggy.

Inside the lounge, the air was filled with the clatter of shouted Arabic and the whirring of the many ceiling fans.

Luckily I was soon discovered by the person who had come to meet me, and within ten minutes of landing I was in a vehicle and leaving the airport. The car had been standing in the sun and was almost unbearably hot until motion forced a draught through the unglazed side windows.

My posting was to Steamer Point, which lay at the seaward end of the great rock which is Aden. As we drove across the sandy isthmus towards the hill it loomed higher and higher, its outline blurred by the mistiness of the air brought on by the high humidity. We passed small knots of Arabs talking and squatting on the ground, which I noted with dismay was everywhere dry and stony and nowhere in any way green.

Soon we were driving between a steep rocky precipice on the left and the harbour on the right. The latter was dotted with small craft, many showing their attractive triangular sails. Through the native town of Ma'ala the road was bordered by low Arab type shops and coffee houses, but by Steamer Point we were driving through a busy shopping centre in the middle of which were palms and the inevitable statue of Queen Victoria.

I was glad to be shown to my bungalow and, tired from the twenty-hour flight, flopped on to my bed after a shower, conscious of the heavy beating swish of the fan.

"Tea, Sahib?" I woke quickly as Ali, my small, ugly but jolly Somali bearer, later to become a staunch friend, left the tea at my side. It was quite the worst tea that I have ever tasted and never improved during the whole of my stay in Aden. However, I was very thirsty and drank it. Tired of the hot stuffy atmosphere, I put on a few clothes and had a look round my new surroundings.

My bungalow was one of about a dozen, all with wide shady



ABOVE: Newly built road from the plain of Laudar to the 8000 ft. high Audhali plateau. Its construction has taken two years and involved cutting through some of the hardest rock in the world. The road will lead to an increased flow of fruit and vegetables from the plateau to Aden market

BELOW: Continual back and forth plod of camels working at the wells is a familiar sight in Arabia. This camel is resting to eat a handful of lucerne—his reward for raising water



OPPOSITE: Morning scene in Beihan, an important town at the south western edge of the Arabian sands



ABOVE: Typical three-camel well at Beihan. The shaft is about 15 ft. in diameter and perhaps 150 ft. deep. The water is fed by a complicated system of channels to the neighbouring fields



BELOW: A sesame oil mill. The oil, important both for cooking and as a fuel, is obtained by crushing the sesame seeds in mills such as these, powered by blinkered camels. The crushed seed cake which remains is a useful cattle food

verandas and low red-tiled roofs perched on the hump of a rocky promontory separated from the main mountain mass by a low flat area of sand—the maidan—which served both as a parade ground and sports pitch, depending on the occasion. Behind this the main mountain mass rose 1700 ft. to the peak Jabel Shamsan. Looking across to the lower slopes, I could see the large three-storey troops' billets and, higher, the long white verandas of the hospital. Vegetation of any sort was remarkable by its absence. This was the scene that I was to see for many long dreary days.

By 6 o'clock the sun was on the horizon, and darkness quickly followed. One by one the cicadas set up their insistent high-pitched trilling as the night closed in, hot, clammy and breathless.

Tailoring for Tropics

First days in a new place are always busy, and mine were no exception. Of course there were hordes of new faces that one had to try to remember as well as a new job to learn. Acting on the advice of others, I had brought only the minimum of tropical kit from England, so that an early visit to the tailor was called for. We found him, an Indian, in his small shop on a rocky ridge high above the maidan. His prices were low, and the dozen or so articles that I ordered were ready within a week and well made too.

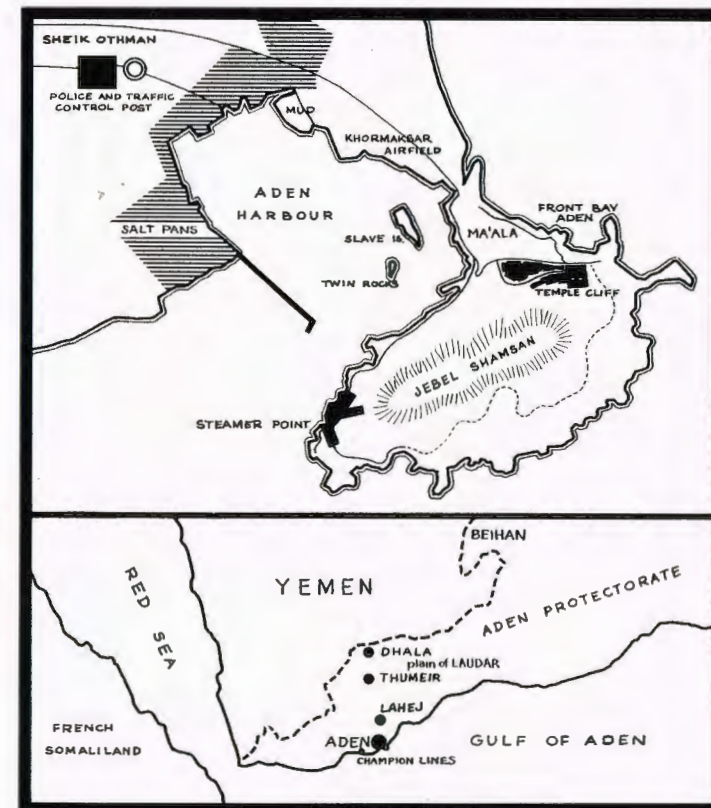
With few diversions, life soon settled into a tedious routine. Woken by Ali with the inevitable "Chai!", I was soon under the shower, eager not to miss the first drop, which was always the coolest. Breakfast was rushed—in any case it was too hot to eat much—and off to work by bicycle, enjoying the downhill rush of cooling air. Work from 7 a.m. until 1 p.m. was punctuated by frequent cups of coffee (I usually drank about three pints each morning, and needed them); and at 1 o'clock a well-earned lunch—the best meal of the day, I always thought. Fortunately fresh vegetables, including lettuce, were easily obtainable, and with the Kenya ham salads were always popular. I always lunched on the mess veranda, about 100 ft. above the sea and with clear views of the Gulf of Aden along the horizon, on which the great tankers could be seen cutting their way between Suez and Kuwait.

In the afternoon the choice lay between a couple of hours on the "charpoy" or an afternoon on the beach. Both had their attractions, and likewise both could be excessively boring through repetition.

In the cool season the swimming was excellent, the water being both cool and refreshing, but in the hotter months between April and September the combination of high temperatures and high salinity was distinctly unpleasant. In May, at the beginning of the south-west monsoon, the great breakers gave splendid sport for a week or two. At all times it was necessary to swim within a shark net for fear of being eaten.

Fleeing the Tourist

Whether sleeping or swimming, some tea and a sandwich and the inevitable shower were welcome at about 4 o'clock, when one felt ready to go out and do something. Unfortunately there was little that one could do—most frustrating. One of the most popular pastimes was to visit the main shopping centre at Steamer Point. The shops here are mainly Arab and Indian owned and set out to fleece the passengers of the many large vessels that put in for refuelling. The most popular items are in the camera and binocular class; the prices seem absurdly cheap



compared with the tax and duty inflated prices that one had come to accept in England.

Whereas the tourists from the ships have but six hours to make their purchases, people living in Aden have two years or so, and this gives them an immeasurable advantage, particularly as the English seem notably adept at bargaining in the Arabian manner. The usual technique was to pick perhaps half a dozen shops which one knew to sell the camera, say, that one wanted and to visit each shop two or three times each week to enquire of the price. The quotations would gradually come down from the rich Italian tourist bracket to the upper English resident class, at which point it was proper to begin serious bargaining, usually playing one shop off against another until finally, after perhaps months of plodding along smelling and goat-infested streets, the deal would be clinched.

Recipe for Bargains

After all this, one might find that the precious camera did not work—a great disappointment but easily remedied. The procedure was to wait until an unusually large ship was in port and at a time when the shop was full of eager and innocent tourists, and to burst in, shouting "Rogue! Thief! Robber! Scoundrel!" or more choice epithets and waving the faulty camera. In a desperate attempt to quieten you before all his prospective but uneasy customers left the shop, the poor man would promise anything.

There is very little variation in the length of day, the sun having usually set by about half-past six. In the evening the heat persists, and the most popular pastime is to sit in a cool bar with a glass of beer. Cinemas are naturally popular, particularly those with air conditioning, although the open-air service cinema at Steamer Point was always a favourite of mine, as, when the film became boring (which was not infrequent), one could look out at

the myriad lights of the vessels in the harbour. For the socially inclined, dinner parties were always popular but usually rather a bore.

I was fortunate in being able to make a number of trips into the Aden Protectorate. The first of these was to Dhala in the hill country to the north of Aden and close to the Yemen border. Because of the interest of the journey and the delightful climate in the hills, a trip on the Dhala Convoy was a much-sought-after "perk" among the soldiery of Aden. The trip is best made by road, a sturdy vehicle being essential, as there is no road in the generally accepted sense of the word.

It was still cool as we drove in the early morning beneath the brown crags of the Colony. At Champion Lines, headquarters of the Federal National Guard, we picked up our escort of cheery Arab soldiers and were soon across the colony border at Sheik Othman bound for Lahej, the first and only town of note on the route. About two miles short of the town, the extensive plantations and irrigated fields (which give the town its strength) are very apparent as the road drives a straight dusty way between them.

Typical Town

Typical of all the lowland towns, the houses are low and mud-built and generally unimpressive. Only the Sultan's palace, whitewashed and guarded both by a wall and members of his private army, bears any distinction. At the small coffee shops which border the narrow high street, water chatties were being filled for the day while the first early customers sat sipping their coffee and contemplating the new day. Beyond Lahej the road cuts straight northwards through the hot dusty fields of cotton and through magnificent avenues of mangoes until the fertile oasis is left behind and we plunge into the short stretch of heavy-going sand where the road crosses the great wadi in which flows the water so precious to the oasis. Once across the wadi the road climbs slowly to the hills.

After about three miles the passage through the hills opened into a wide bowl several miles across and encircled by sharp peaks. In the centre of the plain we came to the whitewashed stone fort of Ar Thumeir, where we stopped. Our escort jumped from their lorry, eager to greet friends and relations stationed at the fort while we followed the mulazzim or lieutenant to a cool whitewashed room at the top of the fort. In time, tin mugs of hot tea, refreshingly flavoured with cardamom, were brought in.

Soon it was time to continue across the plain and into the further hills. By this time the full power of the Arabian sun was burning overhead and the dust from the preceding motor, coupled with the incessant pitching and bumping over the boulders which littered the track, made for some discomfort. At the far side of the plain we plunged into the mouth of a narrow wadi whose course we were to follow until the road broke out on to the green and fertile plateau on which Dhala is built.

The journey from Aden had taken about seven hours: the distance was seventy miles.

Trips such as this and others which I was fortunate to make were all too few, but their benefit was enormous. It seemed that the day when my tour in Aden was to end would never come until, suddenly, it was but weeks away. The last few weeks, which should have been savoured and enjoyed, were a rush of packing and planning. Finally the day came and I exchanged the sultry enervating heat for the cold crisp January English sun.



ABOVE: *Suq al khamis*—Thursday's market—at Dhala in the south western highlands. The camel is bearing a load of hides, one of the chief exports of southern Arabia. BELOW: A bargain is struck



September IN THE GARDEN

PREPARATIONS FOR WINTER

By PERCY THROWER

LAST month our thoughts were centred on flower shows such as Shropshire's big event, the Shrewsbury Floral Fête. This month we must turn to things of rather a different nature and, although it is hard to believe that summer is almost ended and autumn upon us, we must begin to think of a general clean-up of the garden and making the necessary preparations for winter. This will be helped by some really good weather during the next two months.

A PART from weeding, grass mowing, etc., the general clean-up must include some pruning; if raspberries and blackcurrants were not pruned last month they must be done without delay. This is the time of year when rambler roses should be pruned and generally tidied up. Pruning, similar to that of the raspberries, might be considered. The growths or branches which have flowered during the past summer can now be cut off almost at ground level to make way for the young growth which has grown from the base. But before cutting off the flowering growth we must be sure that there is enough young growth to replace it. If not, some of the older pieces will have to be left in order to cover the trellis or wall on which the rambler roses are trained.

When the growths are tied in they need not be closer than twelve to fifteen inches, and if some of the older pieces have to be left, prune back the side or lateral branches to within half an inch of the main stem. Quite often young branches, as well as those which have produced this year's flowers, will be growing from the older branches. Some of these can, if necessary, be left and trained with the other growth. When pruning is finished

the growths or branches must be tied in and for this strong twine, or tarred twine for preference, should be used as it will remain throughout the winter and must still be strong enough to support the weight of the flowering branches next year. By pruning as early as possible we are allowing time for the young growths to reach maturity and the wood to ripen before the winter sets in.

When doing the general clean-up of the garden we may find that mildew is making its appearance on the Michaelmas daisies and, if we do nothing to prevent it spreading, it will spoil the flowers. The same fungicide we have used for mildew on the roses will do for the Michaelmas daisies and, while we are spraying, another one on the roses may prevent many of the autumn flowers being spoiled.

CUTTINGS of geraniums must go in now without delay; if geranium cuttings have not produced their roots by the end of October then a large percentage will be lost through damping-off. Shoots four to six inches long make the ideal cuttings and those growths mature enough to produce buds and flowers are mature enough to produce roots. A sharp knife or a razor blade is essential to make good cuttings; two or three of the bottom leaves must be trimmed off close to the stem, as well as the scales which form at the leaf joints, and a clean cut must be made just below the bottom leaf joint on each cutting. Buds or flowers must also be removed and then the cuttings are ready to go into boxes or pots.

The soil mixture I prefer for rooting geranium cuttings is three parts of loam or soil which has been passed through a half-inch riddle, two parts granulated peat, and two parts coarse sand. No fertilizers

or manures whatsoever should be added to soil mixture for rooting cuttings.

The soil mixture must be made firm in the pots or boxes, and I like to put a sprinkling of sand over the surface so that when making the holes for the cuttings some of it trickles down to the bottom and provides a good rooting medium for the cuttings. The cuttings should be put in so that half their length is under the soil and pressed in firmly.

A good watering after putting in the cuttings should be enough for a week or even longer, depending on the weather. In any case they must not be given any more until the soil feels dry again even if they begin to flag. They can be stood outside for the time being where they will be sheltered from rain, or put into the garden frame or greenhouse. The cuttings should, at this time of year, be well rooted in four to five weeks.

The geranium, sometimes considered to be old-fashioned, is still a favourite of mine; there are few brighter or better plants for continuous summer flowering. Apart from the well-known scarlet there are salmon and pastel pink, orange, white, purple and crimson, some with double and others with single flowers. The single flowered varieties are not so adversely affected by wet weather as the double flowered varieties.

IN the propagating frame in the greenhouse cuttings of heliotrope, coleus, fuchsias and verbenas, as well as others, must be put in, and in the garden frame should be cuttings of the silver leaved centaurea gymnocarpa which I think adds so much beauty to beds of geraniums and other summer flowering plants.



"Pakistani Salt Carrier"

Photo by Maurice Broomfield